UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

CEPD MPCB BRANCH
AIR INSPECTION REPORT

Inspection Date(s):	March 3, 2014	
Type of Inspection:	Partial Compliance Evaluation (PCE)	
Facility Name:	Holsum de Puerto Rico, Inc.	
Facility Contact Name/Number/email:	Mr. Ramón Calderón, owner (787) 798-8282 ramon.hernandez@holsumpr.com	
Facility Representative/email	Mr. Nestor Hernández, Environmental Health and Safety Manager (EHS Manager) nestor.hernandez@holsumpr.com	
Mailing Address:	Call Box 8282, Toa Baja, Puerto Rico 00951-8282	
Physical Address:	PR#2 km. 20.1, Candelaria Ward, Toa Baja, PR	
Lat., Long.	18.408056, -66.2375	
NAICS Code:	311812	
FRS ID:	110007807329	
AFS ID:	7213700010	
Permit No.	PFE-TV-2051-70-0611-0368 (draft)/PFE-LC-70-1110-0621-I-II-C	
Facility Size	Major source, Title V	
Regulatory Programs	PREQB Title V Air Program	
EPA Inspectors	Francisco Claudio	
State Inspectors	None	
Other Inspectors	none	
Draft Report	May 8, 2014	
Final Report	February 17, 2015	
EPA Lead Inspector Signature/Date	Francisco Claudio	2/18/15 Date
Supervisor Signature/Date	Nancy Rodriguez	2/25/15 Date

Purpose:

To perform an inspection at the industrial bakery facility that has been classified as a major source by the Puerto Rico Environmental Quality Board (PREQB) and became subject to the Puerto Rico Title V Program as a major source for ethanol as a volatile organic compound (VOC) and to determine if the facility fully complies with state and federal air regulations.

Background:

Holsum Bakery of Puerto Rico ("Holsum") is located in the Municipality of Toa Baja and was considered as a minor source for all regulated pollutants until 2010. In 2010, Holsum Bakery submitted their air operating permit renewal application and included as their potential to emit an excess over 100 tons per year of volatile organic compounds (VOC). Once PREQB reviewed their application, PREQB informed Holsum that it became subject to the Title V Air Permit Program since their potential to emit exceeded the 100 tpy of VOC. Due to these potential emissions for VOC, PREQB requested Holsum to revise their renewal application. Holsum challenged the decision made by PREQB and decided to conduct a stack test for VOC at their bread and bun ovens to determine the emission rate of both ovens. The tests were conducted by Holsum during September 2013. The preliminary results indicated that their potential to emit is less than 100 tpy for VOC and Holsum asserts that the testing confirms their minor source status. PREQB is reviewing all the data to determine their final source classification.

Findings:

On March 3, 2014, I conducted the initial air inspection at Holsum Bakery of Puerto Rico, Inc. The facility is located at PR Road # km. 20 Candelaria Ward in the Municipality of Toa Baja. The plant owner is Mr. Ramón Calderón. I arrived at the facility, showed my EPA credentials and was directed to Mr. Nestor Hernández, Environmental Health and Safety Manager (EHS Manager). I informed Mr. Hernández of our intention to conduct an air inspection under the federal statutes. I asked Mr. Hernández to explain their process to me since it was the first time I inspected this facility and to also explain to me how they became subject to the PR Title V Air Program as a major source.

Mr. Hernández explained that in 2010, when they hired a consultant to apply for their air permit renewal, the application included an emission estimate using EPA emission factors for a bakery process from the Air Pollution Manual 42 (EPA AP-42) which indicated at that time an emission rate greater than 100 tons per year for volatile organic compounds (VOC). The bakery process at Holsum uses a dough whose main component is yeast and once the fermentation takes place produces ethanol which will be released in the oven once the dough is baked. Mr. Hernández explained that once PREQB received and reviewed their permit renewal application, they informed Holsum Bakery that their VOC emission estimates over 100 tpy made them a major source and they become subject to the Title V Air Program. As such, PREQB requested Holsum to prepare their Title V permit application and submit it for PREQB review. The Title V application was submitted to PREQB during 2011. PREQB reviewed the permit application and deemed it complete in 2011. Once the application as deemed complete, PREQB drafted a Title

V Air permit and conducted a public hearing process on 2012. During the public hearing process, Holsum submitted their request to PREQB to allow it to conduct a stack test on the bread and bun ovens to prove that the ethanol (VOC) emissions were below 100 tpy.

Holsum's test contractor requested a modification of EPA Method 18 from EPA's Office of Air Quality and Planning Standards (OAQPS) to include a moisture trap in the sampling equipment since moisture could affect the recovery of the ethanol samples. OAQPS approved the use of the moisture trap on June 13, 2012. After receiving several protocol submittals from Holsum, PREQB received a final test protocol on July 14, 2012 that included an approved OAQPS test method modification. Holsum conducted the stack tests for VOCs only on their bread and bun ovens on September 18, 2013 and the final report was submitted to PREQB on December 3, 2013. I requested that Mr. Hernandez provide me with a copy of the performance test and a copy of their permit application. The bread and bun ovens are the only ovens that bake products that use the mixture of ethanol and yeast.

I then asked Mr. Hernandez to explain their process to manufacture their bread and buns as well as their other products. Mr. Hernandez explained that the bread oven (Emission Unit EU-6) (Bake-Tech brand) manufactures a variety of breads under different specifications and consists of a continuous single-flow thread with an operational maximum capacity of 13,110 pounds of dough per hour burning LPG at a rate of 24.3 gallons per hour. Baking time varies from 20 to 27 minutes according to the type and size dough used in the process. The number of pans (trays) in the oven varies from 124 to 250. Mr. Hernandez also explained that the bun oven (EU-7, Bake-Tech brand) manufactures a variety of buns of different sizes and forms under different specifications and consists of a continuous single-flow thread with an operational maximum capacity of 5,175 pounds of dough per hour burning LPG at a rate of 24.3 gallons per hour. Mr. Hernandez also confirmed that the baking time varies from 8.5 to 11 minutes according to the type and size dough used in the process, likewise the number of pans (trays) in the oven vary from 451 to 1197. Each oven has its own separate stack. Records on site indicate that the daily bread production can reach an average of 153,290 lbs/day and the daily bun production can reach an average of 98,315 lbs/day.

Process line

Mr. Hernandez showed me the process lines at the facility. Mr. Hernandez also indicated that the process plant has six (6) ovens that burn propane gas. The six (6) ovens included the bread oven (EU-6) and the bun oven (EU-7) which are been used continuously at a rate of 19 hrs/day and 260 days per year. The total hours of operation set by their TV permit application is limited to 4,940 hrs per year. The other ovens used randomly included one for special buns (EU-8), a cake oven (EU-9), and two (2) ovens used for cookies (EU-10 & 11). They also have one donut fryer (EU-12) that also burns propane gas and also operates up to 9 hrs/day. The propane gas tanks have a capacity of 30,000 gallons. Mr. Hernandez indicated that the manufacturing process line starts with bulk flour ingredients that come from the storage silo, which are screened and transferred to the make-up preparation area. Mixing units homogenize the ingredients, after which the mixture is cut to size for the type of product to be baked. A liquid mixture is prepared

adding yeast, water, sugar and miscellaneous ingredients where the dough then goes to steam fermentation, and later to the oven where the product is baked to 400-475°F for the required period. The fermentation process is where the ethanol and carbon dioxide is formed. The dough once heated within the oven reduces the moisture, inactivates the yeast, deals with starch and enzymes and hardens the product. Once the product is baked, it is transferred from the oven by a spiral conveyor to facilitate the cooling process and goes to get sliced and packaged where the expiration date is coded by an electronic machine. After that, the product is transferred to the main storage area for distribution.

Steam and Power Room

The steam boiler has a capacity of 17 HP and burns diesel oil. The plant operates three (3) diesel engines that were manufactured in 1995 and are used solely as emergency power units, two of which are rated at 900 kW and one is rated at 750 kW. The diesel engines are operated on an emergency basis and each unit has an automatic transfer switch that should respond and startup within 8 seconds if the main power supply by PREPA is disrupted. Their existing diesel emergency power units are subject to RICE MACT 40 CFR Part 63 Subpart ZZZZ since the facility is an area source for hazardous air pollutants (HAPs) and are required to meet certain maintenance requirements. See the following table describing the diesel engines and the boiler.

Unit	Model	Manufacturer	S/N	Capacity	Date	Hrs of operation
Engine #1	574RSL4036	Cummings	WA-509807-0597	900 kW	April 95	1147.3 hrs
Engine #2	574RSL4036	Cummings	WA_509809-0597	900 kW	April 95	1136.7 hrs
Engine #3	573RSL2052A -R000W	Cummings	VW-3640837-02	750 kW	1989	14 hrs*
Boiler	ICS 15	Fulton	90161	17 HP	2002	n/a

*Timer recently was replaced

Stack Test Results

The report prepared by Holsum Bakery contractor and submitted to PREQB on December 3, 2013 was provided to me via hand delivery at EPA's CEPD office. The test report indicates that Holsum's VOC emission rate will be approximately 80 tpy and Holsum asserts that it will not trigger the major source definition under PREQB Title V Program. PREQB is reviewing the test report. However, based on the emission rate measured from each oven during the stack test, PREQB's Rule 419 threshold of 3 lbs/hr and 15 lbs/day of VOC emissions is exceeded.

RULE 419 VOLATILE ORGANIC COMPOUNDS (VOC)

(A)No person shall cause or permit the emission of 1.36 kgs. (3 pounds) of volatile organic compounds (VOC) in any one (1) hour, nor of more than 6.8 kgs. (15 pounds) in any one (1) day, from any article, machine, equipment or any other contrivance unless it is provided with a control system, pollution prevention and reductions mechanism or programs or both, as approved or required by the Board.

Based on the PREQB rule, Holsum Bakery will need to re-evaluate their process lines and determine if the VOC emissions will require either an air pollution control device or a pollution prevention program, both of which would need to be approved by PREQB.

Conclusion and Recommendations:

1- There appears to be an issue concerning PREQB Rule 419 that needs to be addressed.

2- Holsum Bakery should discuss with PREQB a compliance plan to allow them to evaluate their air emissions for ethanol and determine with air dispersion modelling if a control device is warranted or if the present operations identify the need for some pollution prevention programs.

3- CEPD should follow-up with PREQB to discuss their final decision on Holsum Bakery's source classification.